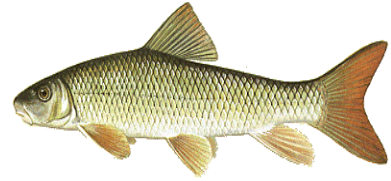


**Fisheries Management (3 credit hours)**  
**Aquaculture/Fisheries (AQFI) 3371**  
**University of Arkansas Pine Bluff**  
**Spring semester, 2008**



**Instructor:** Michael A. Eggleton  
Office: Woodard Hall, Rm 220  
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**Class times:** Lecture: Tuesday/Thursday 9:30-10:45am in Woodard Hall, Rm 257  
Other locations announced as needed.  
Turn cell phones and pagers off during *all* class activities.

**Office hours:** 11:00am - 12:00pm, Tuesday/Thursday  
9:00am - 12:00pm, Monday  
Other hours by appointment. Feel free to email or call me anytime. If I am unavailable, I will return your call as soon as possible provided you let me know when/where you can be reached.

**Prerequisite:** AQFI 2247/2147 (Fisheries Techniques)

**Required text:** Kohler, C.C. and W.A. Hubert, editors. 1999. **Inland fisheries management in North America**, 2<sup>nd</sup> edition. American Fisheries Society, Bethesda, Maryland. (These are in-stock in the University Bookstore – AFS members can buy them straight from AFS at a discount)

***You must provide a working email address that you check regularly. Some handouts, exercises, and other information about this course will be distributed in this manner. If you change your email address during the semester, please provide me the new address promptly.***

## **1) COURSE OVERVIEW**

### **Course description:**

This course is designed for upperclassmen undergraduate students who are Fisheries Biology (FISH.B) majors at UAPB. This course is designed to be an introduction to the concepts and considerations involved in the management of natural or “wild” fisheries. This course has no scheduled laboratory, but some laboratory-type activities are integrated into lecture periods. Students should already be familiar with standard methods and approaches used in fisheries from the Fisheries Techniques course (AQFI 2247/2147).

### **Course objectives:**

The primary objectives are to:

- 1) Become familiar with the concepts, history, and legal aspects of fisheries management,
- 2) Gain a basic understanding of basic fish population dynamics,
- 3) Gain a basic understanding of population and community statistics used in the analysis of fish and fisheries data,

- 4) Explore the basic strategies used in the management of various types of water bodies (small impoundments, reservoirs, natural lakes, streams, and large rivers) relative to their different fisheries and environment (e.g., habitat, water quality, etc.), and
- 5) Learn to review the scientific literature (i.e., books, articles, etc.) in order to conduct an appropriate literature review on a relevant fisheries topic.

Secondary objectives include exploring relationships between aquaculture and natural fisheries management, exposure to management schemes used for fisheries not found in Arkansas, and discussion of natural resource and fisheries policy issues.

**Undergraduate Portfolio Projects (SAFHS goals 2 and 6):**

Students will do two portfolio projects during the semester. The first project (SAFHS goal 2) will pertain to use of the scientific method in fisheries biology. Students will examine a published fisheries management study (e.g., journal article) and assess how each step of the scientific method was achieved. Students must then prepare a short report (guidelines to be provided) that describes in detail how the scientific method was used in the published study. This report will be submitted with the student’s portfolio project during Senior Seminar class (AQFI 4201). Remember – not all papers use the scientific method – you will need to find one that does. Do not wait until the last minute and throw something together. This assignment will be due sometime in next 2-3 weeks.

The second project (SAFHS goal 6) will involve the use of an Excel spreadsheet to calculate an exploitation rate and a total annual mortality rate for a population of fish. Students will then estimate the natural mortality rate of the population and compare that estimate with published estimates for the species. Other related calculations may be included. The Excel spreadsheet and associated comparison also will be included in the student’s portfolio and also submitted during Senior Seminar class.

**Other recommended supplies:**

Calculator, computer diskettes, and/or flash drive. You will be accumulating datasets and other files during the semester. Keep them organized on a diskette or diskettes. Name files appropriately - e.g., ‘lab1\_popest\_data.xls’ and put titles, headers, and/or tab labels in each file. This will help you stay organized. Do not use filenames like ‘fish.xls’ - that could be anything - you won’t remember what these are in a month.

**2) COURSE GRADING**

<b>Composition of total grade:</b>	Total points	% Total grade
Exam I	100	10
Exam II	100	10
Exam III	100	10
Comprehensive final exam	150	15
Quizzes (4-5 total, 20-25 points each)	100	10
Homework assignments (25-50 points each)	300	30
Research presentation	100	10
Class participation	50	5
<b>Total</b>	<b>1,000 points</b>	<b>100%</b>

**Exams:**

As listed above, there will be three (3) 100-point exams during the semester and a 150-point final exam. The final exam will cover the last section of the course (equal to 100 points), and a comprehensive summary (equal to 50 points). As this is an upper-level course, so these exams will be comprised of mostly short essay/answer and problem-solving questions. The test will cover all information presented in class lectures and required readings. This will differ somewhat from you became accustomed to in AQFI 2247/2147.

***Make-up exams will not generally be given.*** If an exam is missed without a valid excuse, you will receive a zero on that exam. Make-up exams will be considered only under extreme circumstances (e.g., death in the immediate family, student illness, athletics, program commitment), provided appropriate documentation can be provided to support such. The final decision lies with the instructor. Every effort should be made to take exams at their properly scheduled times. If an exam must be missed, the student should notify the instructor or department secretary *prior* to the scheduled exam. If the instructor decides a make-up exam is warranted, it will be different from and harder than regularly scheduled exams, and will be scheduled at the convenience of the instructor (this may mean evenings or even weekends).

**Quizzes:**

Quizzes will be announced and based on required course readings and materials covered in lectures since the previous quiz. As many as six (6) quizzes may be given during the term - roughly two (2) quizzes during each third of the semester. Each quiz will be worth 20-25 points and be administered during the first 15 or 20 minutes of class. Thus, class tardiness will hurt you on quizzes. Make-up quizzes will not be given in any circumstances. If a quiz is missed with a valid excuse, your other quizzes will count for more of your grade. However, you can do this only once – other missed quizzes will be scored as zeros.

**Homework assignments:**

There will be a series of homework assignments that cover basic management topics that we will discuss in class, population dynamics in particular. Assignments will be completed on Excel spreadsheets and submitted in both hard and electronic copy. Some of these assignments will serve as class portfolio projects. Specific instructions will be given for each assignment and they will be due on the date/time specified by the instructor. Assignments will be penalized a letter grade (10%) per day late; assignments over one week late will not be accepted. It is strongly recommended that you keep up with the homework assignments.

**Research presentation:**

The student will be required to develop a Powerpoint presentation that encompasses a fisheries management topic that we won't cover in detail during regular lectures. The student will be allowed to select their own topic but I will provide a list of suitable topics for the students to pick from. More details will come later during the semester. For the presentation, I will provide detailed guidelines to follow and the student will be expected to research the topic thoroughly using journal articles, books, government reports or pamphlets, or the internet. All references will be cited accordingly. The instructor, class students, and possibly a guest observer(s) will be used to grade the Powerpoint presentations. It is expected that the presentations will be given 2-3 per class period during late-April. It is important to do well on the presentation because it counts as much as an exam.

**Class participation:**

Active participation in class activities is expected at all times, which includes showing up on-time. I will not delay class activities for a student who is late. I do keep roll in class. Consistent tardiness by students will be reflected in their class participation grade. *There will possibly be a one-time Saturday field lab sometime this semester – attendance will be expected as in regular class.*

**Extra credit opportunities:**

From time to time during the semester, I will offer extra credit opportunities. I will submit a question by email to the whole class. The first who returns the correct answer can earn points. It may be in the textbook or something else fisheries-related.

**Cheating policy:**

**Any form of cheating will be handled in the appropriate manner according to university policy. Cheating will result in a zero on the assignment at a minimum and possibly worse.**

**Reminder: Information copied directly from the Internet and presented as original work is cheating.**

**Test / quiz rules: Book bags in the floor; no jackets, hats, sunglasses, laptop computers, or cell phones allowed out.**

**Homework / lab report rules: You can work together but do them alone. It is very obvious when a student copies another's work and then rephrases or rewords small parts of it. Ditto for copying materials off of the Internet. I can easily use Google to locate Internet materials that have been copied verbatim. Excel files have many way to ascertain original from copied work.**

**Grade assignment:**

Final grades will be based on the total points accumulated from all exercises. Grades will be assigned according to the following schedule:

	Points needed
A= 90.0-100%	900-1000
B = 80.0-89.9%	800-899
C = 70.0-79.9%	700-799
D = 60.0-69.9%	600-699
F = 0-59.9%	0-599

**Attendance:**

Class and laboratory attendance is mandatory. This is a small class, so absences and tardiness are easily noticed. Attendance will be taken for each class and lab session. This is required by the University and reported periodically for financial aid qualification. Thus, excessive class absences may result in you losing your financial aid. Each student is responsible for all material presented in missed lectures and labs, and assignments made therein. If you miss a scheduled field lab with a valid excuse, you will have access to the data collected by your classmates for completion of the associated lab report or assignment.

Pursuant with UAPB policy for a 3-credit course, if a student has four (4) unexcused absences, the instructor will call a meeting with the student to make him/her aware of the situation. A student with five (5) unexcused absences will incur a letter-grade penalty at the end of the course. A student with six (6) unexcused absences will incur a 2-letter grade deduction, and so forth for additional unexcused absences. In the case of excessive absences, the instructor will likely recommend that the student withdraw from the class and enroll again next year.

***\*\*\*Remember—all absences are unexcused until the student provides appropriate documentation. The instructor is not responsible for locating the student after missing class and informing him/her of missed material or assignments or seeking an excuse for the absence. This is your responsibility.***

**Students with disabilities:**

It is the policy of UAPB to accommodate students with disabilities, pursuant to federal law, state law, and the University's commitment to equal educational opportunities. Any student with a disability who needs accommodation, for example in seating placement or in arrangements for examinations, should inform the instructor at the beginning of the course. The chair of the department offering this course is also available to assist with accommodations. Students with disabilities are also encouraged to contact Mr. Michael Washington, Office of Disability Services located in Caldwell Hall, Suite 205, telephone (870) 575-8293.

**3) INSTRUCTIONAL APPROACH****Teaching model and strategies:**

Fisheries management is a concept-oriented course, and the formula for this course is fairly traditional. Basic information will be presented during lectures. Homework assignments will provide the student with hands-on experience using standard management techniques, much in the same manner used by professional fisheries biologists. Techniques are usually problem-solving exercises that integrate management concepts/theory with empirical data. Thus, some role-playing will be involved in the class. Exams will serve to validate learning. The research report provides the student with experience in researching topics, reading scientific papers, and using library resources. These are not frequently done in previous AQFI courses the student has taken to this point.

**Instructional resources:**

As stated above, this course is concept oriented. We will use some internet and other computer resources for the course, but most exercises are best delivered in a hands-on fashion.

**Bibliography:**

Some materials from other references will be used on a limited basis.

Guy, C.S. & M.L. Brown. 2007. Analysis and interpretation of freshwater fisheries data. American Fisheries Society, Bethesda, Maryland. 961 pp.

Irwin, E.R., W.A. Hubert, C.F. Rabeni, H.L. Schramm, Jr., & T. Coon. 1999. Catfish 2000: proceedings of the international ictalurid symposium. American Fisheries Society, Bethesda, Maryland. 516 pp.

Miranda, L.E. & D.R. DeVries. 1996. Multidimensional approaches to reservoir management. American Fisheries Society Special Symposium 16. American Fisheries Society, Bethesda, Maryland. 463 pp.

Murphy, B.R. and D.W. Willis. 1996. Fisheries techniques, 2<sup>nd</sup> edition. American Fisheries Society, Bethesda, Maryland. 732 pp.

Phillipp, D.P. & M.S. Ridgeway. 2002. Black bass: ecology, conservation and management. American Fisheries Society Special Symposium 16. American Fisheries Society, Bethesda, Maryland. 724 pp.

Ricker, W.E. 1975. Computation and interpretation of biological statistics of fish populations. Bulletin 191. Canadian Department of the Environment - Fisheries and Marine Service, Nanaimo, British Columbia.

Schreck, C.B. & P.B. Moyle. 1990. Methods in fish biology. American Fisheries Society, Bethesda, Maryland. 684 pp.

#### 4) COURSE OUTLINE

##### Tentative course outline/schedule:

The goal is cover all of the material included in this outline. However, this schedule is tentative and I reserve the right to make changes as needed.

Week	Date	Lecture/Activity	Chapter(s)
1	Jan 10	Introduction to course, <i>Reflections</i> video	-
2	Jan 15	Scientific method (Portfolio assignment #1)	-
	Jan 17	History of fisheries management in NA	1
3	Jan 22	History of fisheries management (ctd.)	1
	Jan 24	Process of fisheries management	2
4	Jan 29	Communication in fisheries management	3
	Jan 31	Legal considerations / Fisheries laws	4
5	Feb 5	<b>Exam I</b>	
	Feb 7	Exam return/review, Effects of fishing / Dynamics of exploited populations	6
6	Feb 12	Fish population dynamics (ctd.)	6
	Feb 14	Fish population dynamics (ctd.) (Portfolio assignment #2)	6
7	Feb 19	Fish population/community statistics	7
	Feb 21	<b>No class – Arkansas AFS Meeting</b>	-
8	Feb 26	Fish population/community statistics (ctd.)	7
	Feb 28	Catch-up	7
9	Mar 4	<b>Exam II</b>	-
	Mar 6	Lake and reservoir habitat management	11
10	Mar 11	Stream habitat management	10
	Mar 13	Watershed management and land use	9
11	Mar 18	Management of coldwater streams	18
	Mar 20	Management of warmwater streams and large rivers	19,20
	Mar 25	<b>Spring break - No class</b>	-
	Mar 27	<b>Spring break - No class</b>	-
12	Apr 1	Management of large impoundments and natural lakes	22
	Apr 3	<b>Exam III</b>	-
13	Apr 8	Considerations with stocking fishes	14
	Apr 10	Fisheries regulations	17
14	Apr 15	Fisheries regulations (ctd.)	17
	Apr 17	Fisheries modeling	-

15	Apr 22	Fisheries modeling (ctd.)	-
	Apr 24	Class presentations I	-
16	April 29	Class presentations II	-
	May 1	Semester wrap-up, review	-
	Week of May 6	<b>Final exams – ours scheduled Friday, May 9 @ 8:00am-9:50am</b>	

### 5) INSTRUCTOR-STUDENT AGREEMENT

I \_\_\_\_\_ have read and understand the Fisheries Management syllabus. I agree to abide by the rules outlined in the syllabus, and if I do not, will suffer the consequences outlined therein.

\_\_\_\_\_  
Date

Student email:  
\_\_\_\_\_

Student phone:  
\_\_\_\_\_

**Please fill in your Spring 2008 class schedule: (darken in the blocks)**

Time	M	Tu	W	Th	F
8:00am					
8:30am					
9:00am					
9:30am					
10:00am					
10:30am					
11:00am					
11:30am					
12:00pm					
12:30pm					
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4:00pm					
4:30pm					
5:00pm					